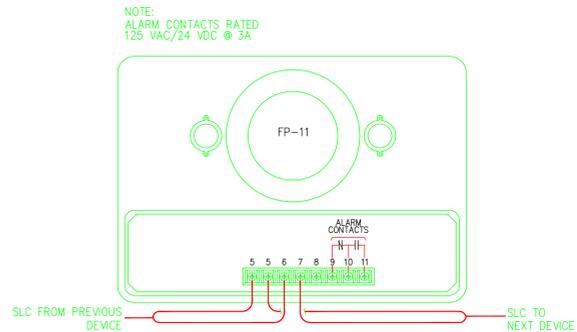
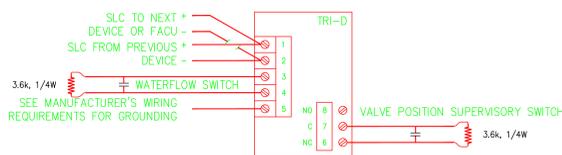


A TYPICAL DEVICE ARRANGEMENT
FAO.0 SCALE: NONE



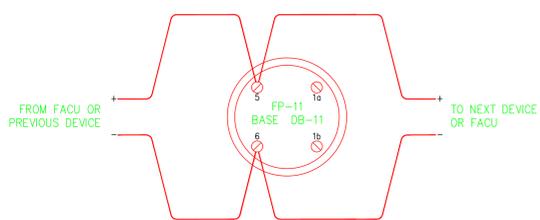
E TYPICAL DUCT WIRING DETECTOR DETAIL
FAO.0 SCALE: NONE



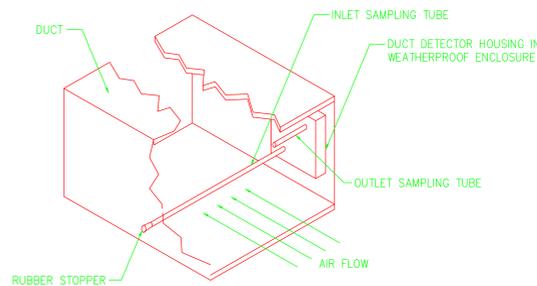
I TYPICAL TRI-D WIRING DETAIL
FAO.0 SCALE: NONE

LEGEND

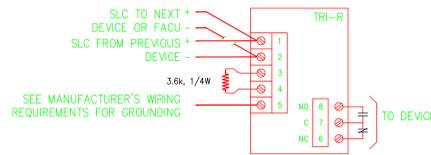
- L1-01 (D) SMOKE DETECTOR, ADDRESS AS NOTED
- L1-02 (DS) DUCT SMOKE DETECTOR, ADDRESS AS NOTED
- L1-03 (F) FIRE CALL BOX, ADDRESS AS NOTED
- FACU FIRE ALARM SYSTEM CONTROL UNIT (MXL) & HSSD POWER SUPPLY
- HSSD IEI VESDA HSSD DETECTOR
- AV-01 15 cd (S) STROBE, NUMBER & MINIMUM CANDELA RATING
- AV-02 110 cd (AV) HORN/STROBE, NUMBER AND MINIMUM CANDELA
- L1-05 (VS) SPRINKLER VALVE SUPERVISORY SWITCH, ADDRESS AS NOTED
- L1-06 (WF) SPRINKLER WATERFLOW SWITCH, ADDRESS AS NOTED
- (TRI) INTELLIGENT INTERFACE MODULE (TRI-R UNLESS NOTED OTHERWISE)
- (EOL) END-OF-LINE DEVICE
- (RFP) EXISTING FENWAL 2210 HALON RELEASING PANEL
- (FSD) COMBINATION SMOKE FIRE DAMPER. SEE HVAC PLANS FOR DUCT AND DAMPER LOCATIONS.
- (HSSD) HSSD SAMPLE PIPING AND SAMPLE PORT
- (L1) FIRE ALARM CONDUIT (3/4-INCH). SEE NOTES PROVIDED ON EACH PLAN FOR CIRCUITS.
 - L1 - 1 PAIR; SLC/ALD LOOP (L1) (SEE RACEWAY NOTES ON EACH FLOOR PLAN)
 - AV1 - 1 PAIR #14; NOTIFICATION APPLIANCE CIRCUIT (SEE RACEWAY NOTES ON EACH FLOOR PLAN)



B TYPICAL DETECTOR WIRING DETAIL
FAO.0 SCALE: NONE



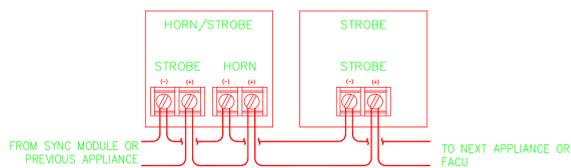
F TYPICAL DUCT DETECTOR DETAIL
FAO.0 SCALE: NONE



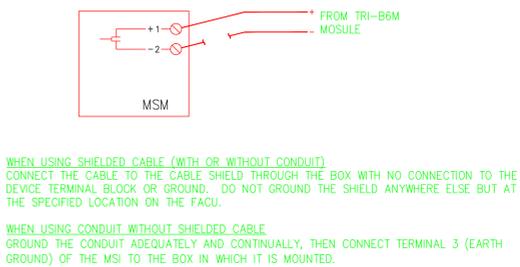
J TYPICAL TRI-R WIRING DETAIL
FAO.0 SCALE: NONE

GENERAL NOTES

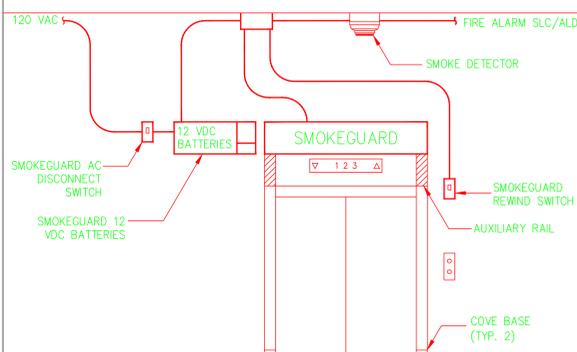
1. THIS DESIGN PROVIDES A FIRE DETECTION AND FIRE ALARM SYSTEM FOR THE ADVANCED LIGHT SOURCE USER SUPPORT BUILDING. THE DESIGN PROVIDES A NEW SIEMENS MXL FIRE ALARM CONTROL UNIT AS THE BUILDING'S CONTROL UNIT (NO EQUAL WILL BE ACCEPTED), PHOTOELECTRIC SMOKE DETECTORS (FOR PROTECTION OF THE AREAS SHOWN IN THE DRAWINGS), DUCT-TYPE SMOKE DETECTORS (FOR BUILDING HVAC FAN SHUTDOWN), WATERFLOW AND VALVE POSITION SUPERVISORY, MANUAL FIRE ALARM PULL STATIONS, AUDIBLE/VISUAL, AND VISUAL NOTIFICATION APPLIANCES. ALL INITIATING DEVICES & NOTIFICATION APPLIANCES SHALL BE COMPATIBLE WITH THE NEW SIEMENS FIRE ALARM CONTROL UNIT (FACU). THE DEVICES AND APPLIANCES SHALL BE PROVIDED AND INSTALLED AS INDICATED IN THE DRAWINGS, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 72, NATIONAL FIRE ALARM CODE, AND THE SYSTEM SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LISTINGS AND APPROVALS.
2. ALL FIRE ALARM SYSTEM RACEWAY (E.G. CONDUIT) SHALL BE PROVIDED IN ACCORDANCE WITH THE UNIVERSITY'S STANDARDS AND THESE CONTRACT DOCUMENTS. ALL CONDUIT SHALL BE ROUTED CONCEALED IN FINISHED AREAS, UNLESS ACCEPTED BY THE UNIVERSITY. CONDUIT ROUTED ABOVE DROP CEILING SYSTEMS SHALL BE INSTALLED AT A HEIGHT PERMITTING THE EASY REMOVAL OF THE CEILING TILE (E.G. CONDUIT SHALL NOT BE INSTALLED ABOVE THE TILE TO PREVENT EASY LIFTING FOR ACCESS). EXPOSED CONDUIT IN FINISHED AREAS SHALL BE PAINTED. CONDUIT IN UNFINISHED AREAS MAY BE UNPAINTED.
3. THESE DRAWINGS ARE DIAGRAMMATIC IN THAT EXACT DEVICE, APPLIANCE, AND EQUIPMENT LOCATIONS, CONDUIT ROUTING, CONDUIT SUPPORT AND CONSTRUCTION DETAILS ARE TO BE DEVELOPED BY THE SUBCONTRACTOR.
4. THE RISER DIAGRAMS ARE DIAGRAMMATIC AND REPRESENT FEASIBLE CONNECTIVITY. THE SUBCONTRACTOR MAY MODIFY THE CONNECTIVITY TO SUIT FIELD CONDITIONS PROVIDED THAT THE NOTIFICATION APPLIANCE AND SIGNALING LINE CIRCUIT LOADS DO NOT EXCEED THOSE SPECIFIED IN THE LISTINGS AND APPROVALS FOR EACH MANUFACTURER'S PIECE OF EQUIPMENT.
5. THE FACU SHALL BE LOCATED AS SHOWN IN THE DRAWING (ELECTRICAL ROOM). THE MXL SHALL BE INSTALLED AT A HEIGHT SUCH THAT THEIR VISUAL DISPLAYS ARE AT A HEIGHT OF 5'-6". THE MXL SHALL COMMUNICATE TO AN EXISTING MXL CONTROL UNIT LOCATED IN BUILDING 84 VIA A SIEMENS NET 7 NETWORK INTERFACE CARD IN THE EXISTING MXL CONTROL UNIT. THE SUBCONTRACTOR SHALL PROVIDE THE NECESSARY AND APPROPRIATE COMMUNICATION CABLING BETWEEN THE NEW MXL CONTROL UNIT AND THE EXISTING MXL CONTROL UNIT IN BUILDING 84. THE UNIVERSITY WILL PROVIDE FOR THE CONNECTION OF THE NEW DATA CABLES TO THE EXISTING MXL CONTROL UNIT.
6. ANY FIRE ALARM SIGNAL SHALL CAUSE ALL AUDIBLE NOTIFICATION APPLIANCES TO OPERATE CONTINUOUSLY IN ACCORDANCE WITH THE UNIVERSITY'S REQUIREMENTS. ANY FIRE ALARM SIGNAL SHALL ALSO CAUSE AN ALARM SIGNAL TO BE TRANSMITTED TO THE UNIVERSITY'S RECEIVER.
7. ANY SUPERVISORY OR TROUBLE SIGNAL SHALL CAUSE A LOCAL ALARM AT THE FACU TO OPERATE. ANY SUPERVISORY OR TROUBLE SIGNAL SHALL ALSO CAUSE A SUPERVISORY/TROUBLE SIGNAL TO BE TRANSMITTED TO THE UNIVERSITY'S RECEIVER VIA THE MXL IN BUILDING 84.
8. ALL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH THE CALIFORNIA ELECTRICAL CODE (SPECIFICALLY ARTICLE 760) AND NFPA 72, NATIONAL FIRE ALARM CODE. ALL FIRE ALARM CIRCUITS SHALL BE CLASS "A," IN ACCORDANCE WITH nfp 72. NO "T-TAPPING" SHALL BE PERMITTED.
9. NO WIRING SHALL BE EXPOSED. CONDUIT SHALL BE USED. WIRING WITHIN ENCLOSURES SHALL BE NEATLY BUNDLED AND STRAPPED OR FASTENED TO THE ENCLOSURE OR ENCLOSURE DOORS.
10. IN SUB-PANELS OR ENCLOSURE SURFACES, WIRING CONNECTED TO HINGED DOORS SHALL BE BUNDLED AND SLEEVED IN A FLEXIBLE PLASTIC TUBING TO PERMIT OPENING AND CLOSING OF THE DOOR WITHOUT STRAINING WIRING AND WITHOUT ABRASION OF WIRE INSULATION.
11. NO CABLE SHALL BE INSTALLED IN VENTILATION DUCTS OR PLENUMS WITHOUT SPECIFIC PRIOR WRITTEN APPROVAL OF THE UNIVERSITY'S REPRESENTATIVE.
12. NO CLASS 2 OR 3 SIGNAL WIRING SHALL BE INSTALLED IN CONDUIT WITH LIGHT, POWER, OR CLASS 1 SIGNAL WIRING.
13. ALL WIRING, EXCEPT WIRING INSIDE ENCLOSURES, SHALL BE CABLED WITH A THERMOPLASTIC INSULATION JACKET, WITH A VOLTAGE RATING EXCEEDING THE VOLTAGE OF ANY POWER IN PROXIMITY TO THE WIRING.
14. ALL SIGNAL WIRING SHALL BE OPERATED AT NOT MORE THAN 30 VOLTS, AC OR DC.
15. THE DESIGN SHOWS THE NEW MXL POWER SUPPLY AS THE SOURCE OF POWER FOR ALL OCCUPANT NOTIFICATION APPLIANCES. IF ADDITIONAL OR REMOTE, POWER SUPPLIES ARE NECESSARY (OR DESIRED BY THE SUBCONTRACTOR TO ACCOMMODATE LONG RUNS) TO ADEQUATELY POWER ALL NOTIFICATION APPLIANCES, THEY SHALL BE PROVIDED AND INSTALLED BY THE SUBCONTRACTOR AT NO ADDITIONAL COST TO THE UNIVERSITY. ANY NEW OR SECOND POWER SUPPLY MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S LISTINGS AND APPROVALS AND MUST BE APPROVED BY THE UNIVERSITY.
16. ANY FIRE ALARM DEVICE LOCATED IN A CONCEALED LOCATION SHALL BE PROVIDED WITH A REMOTE ALARM INDICATOR. THE REMOTE ALARM INDICATOR SHALL BE LOCATED IN A READILY VISIBLE LOCATION IN THE VICINITY OF THE CONCEALED DEVICE.



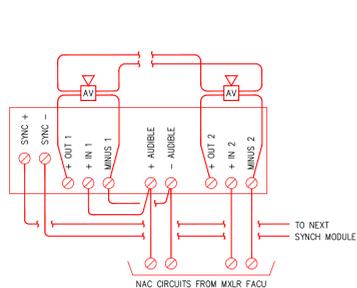
C TYPICAL APPLIANCE WIRING DETAIL
FAO.0 SCALE: NONE



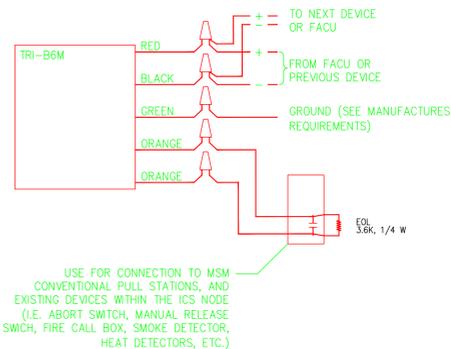
G TYPICAL PULL STATION WIRING DETAIL
FAO.0 SCALE: NONE



K TYPICAL SMOKEGUARD ARRANGEMENT
FAO.0 SCALE: NONE



D TYPICAL SYNC MODULE WIRING DETAIL
FAO.0 SCALE: NONE



H TYPICAL TRI-B6M WIRING DETAIL
FAO.0 SCALE: NONE

FIRE ALARM SYSTEM FUNCTION CHART

SPECIAL NOTE:
REFER TO SHEET FA-21 FOR FUNCTIONS ASSOCIATED WITH THE ICS NODE ON THE 1ST FLOOR.

| SYSTEM EVENT | ANNUNCIATE EVENT AT FACU | FIRE SIGNAL TO LBNL RECEIVER | TROUBLE SIGNAL TO LBNL | SUPERVISORY SIGNAL TO LBNL | OPERATE NOTIFICATION APPLIANCES | RECALL ELEVATOR PRIMARY FLOOR | RECALL ELEVATOR SECONDARY FLOOR | OPERATE ELEVATOR POWER SHUNT | CLOSE ELEVATOR SMOKE GUARD | SHUT DOWN HVAC FAN UNIT | CLOSE/ROLL DOWN DOOR | CLOSE FIRE/SMOKE DAMPER |
|-----------------------------------|--------------------------|------------------------------|------------------------|----------------------------|---------------------------------|-------------------------------|---------------------------------|------------------------------|----------------------------|-------------------------|----------------------|-------------------------|
| FIRE CALL BOX | • | • | | | | | | | | | | |
| SMOKE DETECTOR | • | • | | | | | | | | | | |
| FIRE SPRINKLER WATERFLOW SWITCH | • | • | | | | | | | | | | |
| ELEVATOR LOBBY DETECTOR 1ST FLOOR | • | • | | | | | | | | | | |
| LOBBY DETECTOR REMAINING FLOORS | • | • | | | | | | | | | | |
| ELEVATOR MACHINE RM SMOKE | • | • | | | | | | | | | | |
| ELEVATOR MACHINE RM WATERFLOW | • | • | | | | | | | | | | |
| ELEVATOR MACHINE RM HEAT DETECTOR | • | • | | | | | | | | | | |
| HVAC DUCT SMOKE DETECTOR | • | • | | | | | | | | | | |
| FSD DUCT SMOKE DETECTOR | • | • | | | | | | | | | | |
| DETECTOR AT ALS OPENING/DOOR | • | • | | | | | | | | | | |
| VALVE POSITION SUPERVISORY SWITCH | • | • | | | | | | | | | | |
| AC POWER FAILURE | • | | • | | | | | | | | | |
| SYSTEM FAULT | • | | • | | | | | | | | | |

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If this drawing is not 30"x42", then the drawing has been revised from its original size. Noted scales must be adjusted. This line should be equal to one inch.

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FAX: (925) 681-2733

NO. ISSUE/REVISIONS DATE
FINAL AS-BUILT RECORD DRAWINGS Q2-18-11

RECORD DRAWING NOTE:
SEE ALSO SIEMENS
INDUSTRY, INC. "AS BUILT"
PLANS (DOB 440-065395) FOR
ADDITIONAL INFORMATION
AND CONTRACTOR DETAILS

**LBNL ADVANCED
LIGHT SOURCE USER
SUPPORT BUILDING 15**
BERKELEY, CA



PROJECT NO.: 07004.00 DRAWN BY: DWH
DATE: 2/18/2011 CHECKED BY: BBT
SCALE: AS NOTED
SHEET TITLE:

**FIRE ALARM
GENERAL NOTES,
LEGEND, AND DETAILS**

5N15E040

SHEET NO: **FA-0.0**
FN1421